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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,344	08/27/2003	Ralph L. Schipani	01450.0009-US-12	4158

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EXAMINER

SLACK, NAKO N

ART UNIT	PAPER NUMBER
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3635

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/649,344

Applicant(s)

SCHIPANI ET AL.

Examiner

Naoko Slack

Art Unit

3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 27 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/12/2004.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed January 12, 2004 has been considered. A signed copy is attached with this Office Action.

### ***Drawings***

The drawings are objected to because "Fig. 3" should be - - Fig. 3A - -.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures.

The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the attachment point" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections – 35 USC 102(b)***

The following is a quotation of the appropriate paragraphs of 35 USC 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 and 15-20 are rejected under 35 USC 102(b) as being clearly anticipated by US Patent 2,987,148 to Millard.

Claim 1:

Millard discloses a foldable truss member, comprising:  
a plurality of adjacently connected side members (10-13, Figure 3) together forming a peripheral boundary of the truss member, each side member comprising an elongated support member having a side surface (any surface along the side of member);

Art Unit: 3635

a bridging member (14-17, Figure 3) hingedly connected to the side surface of the support member at an attachment point of the support member, the bridging member having an extension at an edge of the bridging member opposite the attachment point; and a plurality of hinge members (18-25, Figure 3) pivotally joining the bridging member to the support member and an adjacent side member, each hinge member allowing relative rotation of the side members.

Claim 2:

Each bridging member further comprises a sawtooth-shaped member having a first and second set of oppositely disposed peaks, the first set of peaks hingedly attached to the attachment point of the support member, and the extensions of each bridging member comprising the second set of peaks.

Claim 3:

The hinge members comprise surfaces frictionally engaging the bridging members (column 2, lines 7-10).

Claim 4:

Millard discloses a foldable truss member, comprising:  
a plurality of adjacently connected side members (10-13, Figure 3) together forming a peripheral boundary of the truss member, each side member comprising: an elongated support member having a side surface;  
a bridging member (14-17, Figure 3) hingedly connected to the side surface of the support member at an attachment point of the support member, the bridging member having an extension at an edge of the bridging member opposite the

Art Unit: 3635

attachment point; and a plurality of hinge members (18-25, Figure 3) pivotally joining the extension of each side member to a support member of an adjacent side member, each hinge member allowing relative rotation of adjacent side members, a plurality of edges between adjacent side members defining a plurality of corners of the truss member (shown in cross section, Figure 4).

## Claim 5:

Each bridging member further comprises a sawtooth-shaped member having a first and second set of oppositely disposed peaks, the first set of peaks hingedly attached to the attachment point of the support member, and the extensions of each bridging member comprising the second set of peaks.

## Claim 6:

The hinge members comprise surfaces frictionally engaging the bridging members (column 2, lines 7-10).

## Claim 7:

Millard discloses a foldable truss member, comprising:  
a plurality of side member means (10-13, Figure 3), each side member means comprising a receiving means located at a lower edge of the side member means, the side member means adjacently arranged so that the lower edges of the adjacently arranged side member means form a closed shape having a plurality of corners (corners best shown in Figure 4), and a plurality of hinging means (18-25, Figure 3) connecting adjacently arranged side member means, the hinging means allowing

Art Unit: 3635

relative rotation between adjacently arranged side member means so that the side member means are foldable into a substantially flat assembly.

Claim 8:

The truss member according to claim 7, further comprising bridging means (14-17) hingedly connecting at least two side member means.

Claim 9:

The bridging means comprise a sawtooth-shaped member having a first and second set of oppositely disposed peaks, the first set of peaks hingedly attached to the attachment point of the side member means, and the extensions of each bridging means hingedly connecting the second set of peaks to an adjacent side member means.

Claim 10:

The hinge means comprise surfaces frictionally engaging the bridging means (column 2, lines 7-10) and the hinge means are fixedly connected to the side member means (by crimping, column 2, lines 38-40).

Claim 15:

Millard discloses a method of assembling a truss member, comprising: adjacently coupling a plurality of side members to form a peripheral boundary for each of the truss members, each of the side members including an elongated edge hingedly attached to a bridging member, the bridging members

Art Unit: 3635

hingedly attached to adjacent side members; and relatively rotating side members and the bridging members to place the side members of the truss member in a deployed configuration (column 1, line 71- column 2, line 4).

Claim 16:

The method further comprises the step of relatively rotating the adjacent side members about the elongated edges with a folding force sufficient to overcome the holding force of a plurality of hinge members; and rotating the side members to put the truss member in a folded configuration (column 2, lines 5-10).

Claim 17:

At least two adjacent side members are hingedly connected together via a plurality of hinge members connecting the side members to a bridging member (19 and 25, Figure 3).

Claim 18:

Millard discloses a method of assembling a truss member, comprising: adjacently coupling a plurality of side members to form a peripheral boundary for each of the truss members, each of the side members (10-13) including an elongated edge hingedly attached to an adjacent side member, the elongated edges of the side members defining a plurality of corners of the truss member (Figure 4); rotating the adjacent side members about the elongated edges to put the side members of the truss member in a deployed configuration; and rotating the side members to overcome a holding force in the deployed configuration of the truss member to prevent further relative rotation of the side members (column 1, line 71- column 2, line 10).



Art Unit: 3635

Claim 19:

The method further comprises relatively rotating the side members to overcome a folding force sufficient to overcome the holding force of a plurality of hinge members (column 2, lines 7-10); and rotating the adjacent side members to place the truss member in a folded configuration (Figure 2).

Claim 20:

Adjacent side members (10-13) are connected via a plurality of hinge members (18-25) which connect a plurality of bridging members (14-17) between adjacent side members.

Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US Patent 6,149,021 to Beaulieu.

Claim 11:

Beaulieu discloses a foldable truss member, comprising a plurality of side member means (14, Figure 4), each comprising a lower edge (lower ends of 14, Figure 2) and two side edges as the side member means are hollow tubes of rectangular cross-section, the side member means adjacently arranged so that the lower edges of the adjacently arranged side member means form a closed shape (as best shown in Figure 4); and a plurality of hinging means (20, Figure 4) connected between the side edges of the adjacently arranged side member means, the hinging means allowing relative rotation between adjacently arranged side member means so that the side

Art Unit: 3635

member means are foldable into a substantially flat assembly (Figure 3), the side edges of the side member means defining a plurality of corners of the truss member.

Claim 12:

The truss member further comprises bridging means (18 and 16, Figure2) hingedly connecting at least two side member means.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 2,987,148 to Millard in view of US Patent 6,149,021 to Beaulieu.

Claim 11:

As previously explained, Millard discloses a foldable truss member comprising a plurality of side member means, the side member means (10-13) adjacently arranged so that the lower edges of the adjacently arranged side member means form a closed shape; and a plurality of hinging means (18-25) connected between the side edges of the adjacently arranged side member means, the hinging means allowing relative rotation between adjacently arranged side member means so that the side member means are foldable into a substantially flat assembly, the side edges of

Art Unit: 3635

the side member means defining a plurality of corners of the truss member.

Millard fails to disclose that each side member means comprises a lower edge and two side edges because Millard's side member means are rods of circular cross-section. However, a foldable truss using rectangular side member means whose four sides form edges is known in the art as shown by Beaulieu (14, Figure 4).

In view of Beaulieu, it would have been obvious for one of ordinary skill in the art at the time the invention was made to form Millard's side member means with hollow rectangular tubes as opposed to solid rods, as Millard is concerned with providing a structural truss which is simple and practical in construction, yet also strong and rigid (column 1, lines 18-24), all benefits of hollow rectangular tubing over solid rods.

Millard's round aperture formed in the hinge means could easily be formed as a rectangular aperture to accommodate a rectangular side member means.

Claim 12:

Millard's truss member further comprises bridging means (14-17) hingedly connecting at least two side member means.

Claim 13:

The bridging means comprise a sawtooth-shaped member having a first and second set of oppositely disposed peaks, the first set of peaks hingedly attached to the attachment point of the side member means, and the extensions of each bridging means hingedly connecting the second set of peaks to an adjacent side member means (as best shown in Figure 3).

Claim 14:

The hinge means comprise surfaces frictionally engaging the bridging means (column 2, lines 7-10) and the hinge means are fixedly connected to the side member means (by crimping, column 2, lines 38-40).

### ***References Cited of Interest***

The following references are cited of interest:

US Patent 3,011,586 to Harvey Jr., US Patent 4,280,310 to Tolliver, and US Patent 1,140,448 to Ellinger disclose folding trusses.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naoko Slack whose telephone number is (703) 305-0315. The examiner can normally be reached on Mon-Fri (6:00 am-2:30pm EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Carl D. Friedman can be reached at (703) 308-0839. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Application/Control Number: 10/649,344

Page 12

Art Unit: 3635

A handwritten signature in black ink, appearing to read 'Naoko Slack', written in a cursive style.

Naoko Slack  
Primary Examiner

NS

October 17, 2004